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AUTHOR Albiero-Walton, Julianne
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ABSTRACT

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Running head: GENERAL SELF-EFFICACY OF COLLEGE STUDENTS

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General Self-Efficacy of College Students with Disabilities

Julianne Albiero-Walton Ed.D.

East Stroudsburg University of Pennsylvania

Phone 570 422 3161
jwalton@po-box.esu.edu
Office of Disability Services
300 Prospect St
East Stroudsburg PA 18301

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Abstract

The purpose of this study was to provide information on the structural dimensions of the Multidimensional Scale of Perceived Self-Efficacy (MSPSE, Bandura, 1989) and compare the level of general self-efficacy between college students with and without disabilities. The study involved the collection of data from the MSPSE (Bandura, 1989) and a demographic questionnaire for 137 college students with and without disabilities. This study compared MSPSE scores between college students with and without disabilities. The analysis showed that the MSPSE could be used to assess self-efficacy with this sample population and that there was no statistically significant difference in the level of self-efficacy between college students with and without disabilities.

General Self-Efficacy of College Students with Disabilities

There is an increase in individuals with disabilities attending post-secondary institutions. In a 13-year period, the number of students with disabilities increased from 3% to 9% of the college population (Henderson, 1999). New statistics indicate that college students with disabilities are more likely to attend two year institutions rather than four year universities, have a learning disability, are enrolled part-time, are less academically prepared and are less likely to graduate in 5 years (Horn, Berkold & Bobbitt, 1999). These statistics are conservative because not all students with disabilities self identify or seek services (Lynch & Gussel, 1996).

Hutto & Thompson (1995) report that the increase in the number of students with disabilities on college campuses is the result of several factors. The passage of civil rights legislation, Section 504 of the Rehabilitation Act of 1973 and the American with Disabilities Act (ADA) of 1990, allowed students with disabilities equal access to education both in elementary and secondary schools. The advancement of medical care, which saves and prolongs life, has led to the increased number of individuals who survive and live with disabilities. The number of students with disabilities is expected to continue to increase at post-secondary institutions (Hutto & Thompson, 1995). This minority group is fast becoming a large segment of the post-secondary population. Huebner & Thomas (1996) indicate that college students with acquired disabilities are a “most resilient and resourceful” group of individuals (p. 58).

There is an assumption that college students with disabilities have deficits (French, 1996; Sanders & Dubois, 1996). This results in barriers to education, socialization and psychological well being (Ash, Bellew, Davies, Newman & Richardson, 1997; Benshoff, Fried & Roberto, 1990; Sanders & DuBois, 1996). Attitudinal barriers create labels that result in a disabled identity. While this identity helps individuals acknowledge the disability as part of their

existence, it also reinforces barriers and preconceived ideas (Sanders & DuBois, 1996).

“Disabled students more than non-disabled students saw themselves as students first” (Ash et al., 1997, p. 607). They have the same concerns as students without disabilities about adjustment to college and social interaction (Conyers, Enright & Strausser, 1998). Students with disabilities can make successful adjustments in post-secondary institutions with support services for their academic needs (Low, 1996). Benshoff et al. (1990) noted, “...little research exists that detail the college success or failure of students with disabilities” (p. 44). This has spurred research in that direction (Horn et al., 1999).

The problem is that on a national level, students with disabilities at post-secondary institutions are less likely to persist in educational goals and to attain a degree than students without disabilities (Horn et al., 1999). Research focusing on personality constructs that contribute to academic achievement fail to show any significant differences between individuals with and without disabilities in post-secondary institutions (Benshoff et al., 1990; Fichten, Bourdon, Amsel & Fox, 1987; Gambrill, Florian & Splaver, 1986; Graham, Schwartz & MacArthur, 1993; Houck, Englehard & Geller, 1989; Kriegsman & Hershenson, 1987; Leone & Burns, 1997; Schieman & Turner, 1998; Shifflet, Cator & Meggenson, 1994; Whilite, 1990). College students with disabilities need to be aware that although they are similar to individuals without disabilities in ego development, self-actualization, motivation, maturity, locust of control and self-concept; they continue to persist and graduate from post-secondary institutions at a lower percentage than college students without disabilities (Henderson, 1999; Kriegsman & Hershenson, 1987).

Since there are physical or cognitive differences between groups of students, the assumption is that there are underlying differences that will produce predictable results (Ash et

al., 1997). However, there are more similarities than differences noted in college students with and without disabilities. Several authors attribute the similarities in both groups to the fact that students, whether there is a disability or not, have obtained admission to a post-secondary institution (Greenwood, Dzewaltowski & French, 1990; Houck et al., 1989; Kriegsman & Hershenson, 1987; Shifflet et al., 1994). This implies accomplishment and a certain degree of coping skills.

There is no statistically significant difference between students with disabilities and without disabilities in motivation, success expectation, social interactions, self-concept, sense of mastery, stage of development and locus of control (Benshoff et al., 1990; Fichten et al., 1987; Gambrill et al., 1986; Graham et al., 1993; Houck et al., 1989; Kriegsman & Hershenson, 1987; Leone & Burns, 1997; Schieman & Turner, 1998; Shifflet et al., 1994; Whilite, 1990). The hypothesis that college students with disabilities are different from students without disabilities has been proven false in the studies mentioned above.

Previous research has shown that self-efficacy is associated with positive academic achievement (Pajares, 1996). Individuals with a high degree of self-efficacy can complete tasks and be successful in academic pursuits (Bandura, 1997). The hypothesis that college students with disabilities are different in personality constructs responsible for academic achievement from college students without disabilities has not been proven. College students with disabilities may have physical, cognitive or emotional differences, but research has shown they do not exhibit differences in many personality constructs that are important to academic success (Benshoff et al., 1990; Graham & Weiner, 1996; King, Schultz, Steel, Gilpin & Cathers, 1993; Kriegsman & Hershenson, 1987; Low, 1996; Schieman & Turner, 1998; Zimmerman, 1996). There is “no evidence that college students with disabilities are functioning at different levels

than their nondisabled peers” (Benshoff et al., 1990, p.49). There is little research on the level of self-efficacy in individuals with disabilities (King et al., 1993; Saracoglu, Minden & Wilchesky, 1989; Schieman & Turner, 1998).

The Multidimensional Scale of Perceived Self-efficacy (MSPSE, Bandura, 1989) has been used to assess self-efficacy in college students (Bryant, 1998). The previous studies used samples that were homogeneous and had few subjects that scored low in self-efficacy (Bryant, 1998; Miller, Coombs & Fugua, 1999; William & Coombs, 1996; Zimmerman, Bandura & Martinez-Pons, 1992). These studies did not use identifiers to distinguish if subjects had any disabilities. In order to measure the level of self-efficacy in college students with disabilities, the MSPSE (Bandura, 1989) needed to be validated for this population and the reliability of the assessment calculated from the subjects' responses.

The purpose of this study was twofold. This study assessed the reliability and validity of the MSPSE (Bandura, 1989b) with a sample population of college students with and without disabilities. This study compared the self-efficacy scores of both groups and focus on the self-efficacy of college students with disabilities because there is little research on the general self-efficacy of this group (King et al., 1993; Schieman & Turner, 1998).

Method

Participants

Participants for this study were selected from several classes and through contact with the Office of Disability Services. The class sections were selected because they have a large number of students in each one (class size averages 30), the students were freshmen through seniors, and the participating professors gave the test administrator class time to explain the study. The students in this group were asked to voluntarily answer the demographic questionnaire and the

MSPSE (Bandura, 1989).

The other group of students was recruited through the Office of Disability Services of the same public university. During the semester registration period, students with documented disabilities attended appointments with their respective disability service provider to register for classes. At this time, students with documented disabilities were asked to volunteer for this study.

Students with a documented disability were “otherwise qualified” college students, currently attending the university with appropriate documentation on file in the Office of Disability Services. The Office of Disability Services provides appropriate accommodations for equal access to programs and services. The students who volunteered for this study were not identified and the primary diagnoses were general categories, strictly for comparison purposes. The primary diagnostic category was dependent on the original medical or psychoeducational documentation provided within the guidelines of the institution and Americans with Disabilities Act (1990).

The primary diagnosis as designated by the certifying professional will be the specific category of disability used to identify the individuals in this study. The primary diagnostic labels fall within one of 8 categories ascribed by federal law but were renamed by this specific post-secondary institution to comply with regional terminology (ADA, 1990; Rehabilitation Act, 1973). These diagnoses include categories from federal law: hearing impairments, orthopedic impairments which are referred to as mobility impairments, other health impairments which are referred to as medical impairments/chronic illness, serious emotional disturbances which are referred to as psychiatric disabilities, specific learning disabilities which are referred to as learning disabilities and attention deficit hyperactivity disorder when the

diagnosis warrants, traumatic brain injury which are referred to as head injury and visual impairments which remain the same (Whorton, Siders & Naylor, 2000).

This was a sample of convenience. Students with disabilities are a minority population on any post-secondary campus, thus limiting the availability of participants and making the random assignment to the study difficult (Henderson, 1999). The sample was limited to students currently attending this particular post-secondary institution. Confidentiality issues are defined by the ADA (1990) and prohibit the disclosure of a disability without an individual's consent.

Instrument

Instruments used to measure self-efficacy vary. One concern of self-efficacy assessment is the inability of scales to measure all three aspects of self-efficacy. Most scales do measure magnitude and can measure strength but seldom measure generality (Vispoel & Chen, 1990). Generality is difficult to measure because of its obscurity. Generality is multi-dimensional, meaning that self-efficacy can range from a specific belief regarding a specific task to a belief about a range of similar tasks or as far reaching as a belief about a domain of behavior (Bandura, 1997).

A literature review of self-efficacy assessments indicated that most population samples were chosen from college students (Vispoel & Chen, 1990). This concern is relevant when trying to choose an assessment tool that can be used with a non-traditional sample (Geisinger & Carlson, 1995). Self-efficacy scales are not normed for individuals with disabilities, so test administration must be modified, validity must be questioned and test interpretation must be viewed with caution. "The goal of any interpretation of a modified assessment should be an expected result on the comparable standardized assessment" (Geisinger & Carlson, 1995, p.2).

There are a few scales that assess general self-efficacy (Bandura, 1989; Coppel & Smith,

1980; Shelton, 1990; Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs & Rogers, 1982; Tipton & Worthington, 1984). Bandura (1989) developed a multi-dimensional scale of perceived self-efficacy, which remains unpublished. The Multidimensional Scales of Perceived Self-Efficacy (MSPSE) is a 57 item self-report inventory designed to assess the general self-efficacy of an individual (Bandura, 1989; Bandura, Barbaranelli, Caprara & Pastorelli, 1996; Miller et al., 1999; Williams, 1996). It includes nine subscales with items using Likert-type responses. The test score assumes the higher the individual's score, the greater the indication of perceived self-efficacy beliefs (Bandura et al., 1996; Bandura, 1989; Bryant, 1998; Miller et al., 1999; Williams, 1996; Williams & Coombs, 1996).

Previous studies have used this assessment with college age samples (Bryant, 1998), college bound high school students (Miller et al., 1999; Williams, 1996; Williams & Coombs, 1996) and middle school children with the mean age of 12 (Bandura et al., 1996). None of the studies requested identification of a disability and the studies' populations were predominately Caucasians. These studies proved this assessment has a high reliability and construct validity (Bandura et al., 1996; Bryant, 1998; Miller et al., 1999; Williams, 1996; Williams & Coombs, 1996). Although the MSPSE measures self-efficacy, Bandura (1997) continues to indicate that specific self-efficacy has a more predicative value than general self-efficacy and supports assessments for task specific self-efficacy.

Procedure

The study is an assessment of a construct not an experimental study. This scale, MSPSE, (Bandura, 1989) was selected for the study on the basis on its design to measure the various aspects of self-efficacy. The MSPSE (Bandura, 1989) proved to be a reliable and valid measurement of self-efficacy for college students with disabilities and a comparative study of the

level of general self-efficacy of college students with and without disabilities took place. There were no treatments and no control group.

Students from both samples were asked to volunteer to take the MSPSE (Bandura, 1989). Participation from both groups of students was voluntary. All students were 18 years of age or older. The researcher asked for volunteers when the students came to see the disability service providers. This protected confidentiality but limited the study to a sample of convenience. The sample was made up of college students from a small public university, so the results cannot be generalized beyond a post-secondary setting with similar demographics. The study recruited 137 volunteers out of a pool of 236 students.

The study involved the collection of data from the MSPSE (Bandura, 1989) and a demographic questionnaire for college students with and without disabilities. The difference between the two groups in this study is the label of documented disability, which was considered the independent variable. The demographic questionnaire and MSPSE (Bandura, 1989) was distributed individually, returned to the researcher and hand scored.

Data from both groups was analyzed for reliability and validity. An analysis of the MSPSE scores took place for descriptive data. An analysis of the demographic questionnaire for descriptive data took place. A comparison study of the scores on the MSPSE (Bandura, 1989) between college students with and without documented disabilities was conducted. The set of scores for the two groups of subjects were evaluated for significance.

Results

The sample was limited to the demographics of the institution where the assessment was administered and to the students who identified themselves as having a disability. This study had no one identifying him or herself with mobility impairment, few subjects identified themselves

as having a visual or hearing impairment and one identified as having a head injury as their primary diagnosis. The majority of the sample identified themselves as having learning disabilities or medical impairments, which limit the study's generalizability.

The reliability and validity of the MSPSE (Bandura, 1989) was evaluated with a limited sample size. The administration of the MSPSE (Bandura, 1989) was available to the individuals with disabilities in a format that would provide them equal access (ADA, 1990). The accommodations were dependent on the needs of the individual. The administration of the MSPSE (Bandura, 1989) was provided with accommodations to several individuals.

The study did not use a random sample due to the limited number and identification of college students with disabilities. The subjects with disabilities were asked to volunteer and did participate to a large degree probably due to their relationship with the researcher. Volunteers are known to be better educated, more sociable and have need for approval, so studies using volunteers must be cautious of inflated scores (Benshoff et al., 1990). Since the MSPSE (Bandura, 1989) has no device to explore false positive answers, the researcher must consider inflated scores as a possibility. However, scores from both groups of volunteers did not exceed mean scores from other studies (Bryant, 1998; Miller et al., 1999; Williams & Coombs, 1996).

This study provided information on the structural dimensions of the MSPSE (Bandura, 1989) for college students with disabilities. A comparison study was conducted after evaluating the reliability and validity of the MSPSE (Bandura, 1989) for college students with disabilities. The study failed to reject the null hypotheses but provided some answers to the research questions. The sample demographics were predominately female and full-time, first year students. Those individuals with documented disabilities identified their primary diagnosis as predominately having a learning disability.

Of the 236 MSPSE (Bandura, 1989) and demographic questionnaire given, 145 were completed and returned with a signed consent form. This resulted in a 60% response rate. Of the 145 assessments completed, 137 were used in the study. Of the 137 respondents, 69 or 50.40% of the respondents did not identify themselves as having a disability and 68 or 49.60% of the respondents identified themselves as having a disability. Analysis provided information on the structural dimension of the MSPSE and the MSPSE scores between college students with and without disabilities were evaluated.

The MSPSE (Bandura, 1989) has a strong internal consistency based on previous research with a Cronbach's alpha coefficient of .92 (Bryant, 1998; Miller et al., 1999; Williams, 1996). The study of the psychometric properties of this assessment has been limited to college age individuals, college bound students and middle school children. None of the studies requested identification of a disability and the studies' populations were predominately Caucasians (Bandura et al., 1996; Bryant, 1998; Miller et al., 1999; Williams, 1996; Williams & Coombs, 1996).

This study conducted a Cronbach's alpha coefficient to determine reliability and a factor analysis to evaluate construct validity. The overall Cronbach's alpha coefficient for the sample population was .89. The overall Cronbach's alpha coefficient for the scale scores of the college students identified as having a disability was .90. and for the scale scores of college students without disabilities was .88. The overall Cronbach's alpha coefficient indicated a reliability of the MSPSE with this sample population (Slavin, 1992; Stevens, 1992). The results of previous studies indicate that the MSPSE subscales have a little overlap between the nine self-efficacy constructs (Bandura et al., 1996; Bryant, 1998; Miller et al., 1999; Williams & Coombs, 1996; Zimmerman et al., 1992).

A principal axis factor analysis was conducted to estimate the construct validity of the MSPSE with this sample. Nine factors were defined which correspond to the theoretical components of Bandura's (1997) construct of self-efficacy. Two tests were done to show the suitability of this data for a factor analysis, the Kaiser-Meyer-Olkin measure of sampling adequacy and the Bartlett's test of Sphericity (Brace, Kemp & Sneglar, 2000). The results of these measures indicated that a factor analysis should be conducted using the whole data set. Since the MSPSE is a 57-item assessment, the n of the sample of college students with disabilities ($n = 68$) is too small for an effective factor analysis. Factor analysis of the entire sample provided more useful information (Stapleton, 1997).

An orthogonal rotation was done to evaluate the data for nine factors. The variance of the nine rotated factors for the total sample was 50.34%. (Table 1) The test scores from this administration of the MSPSE appear to be valid based on the results of the factor analysis from the total sample. Many factors load on the same factor scale as other solutions (Bryant, 1997; Miller et al., 1999; Williams & Coombs, 1996) but the n of this sample is small and validity for a 57 item assessment would be better evaluated with a larger sample (Stevens, 1992).

The analysis showed that the MSPSE (Bandura, 1989) could be used to assess self-efficacy with this sample population. The construct validity for this sample is similar to previous research and provided the researcher with enough information to continue with the comparison study (Bryant, 1998; Miller et al., 1999; Williams & Coombs, 1996; Zimmerman et al., 1992). Overall construct validity of this instrument must still be viewed with caution because very few in the sample populations scored low in self-efficacy and other than the disability designation; there is little else to describe the sample as anything other than homogenous.

This study did a comparison between the self-efficacy scores between college students

with and without disabilities. A *t*-test for independent samples was done between the MSPSE (Bandura, 1989) score means of college students with and without documented disabilities. A Levene's test for equality of variance was used to test the advisability of using a *t*-test for independent samples and equal variances were assumed (Brace et al., 2000). The means, standard deviation and range of the MSPSE were determined for the total sample and each group within the sample. The results are summarized in Table 2. The *t* for the comparison of the means was 1.75, $p > .05$. This analysis does not indicate that there is a statistically significant difference between the group means for this population. This analysis did not find any significant difference in self-efficacy between groups of college students.

Discussion

The primary implications of this study were to provide information on the practical and educational use of the MSPSE (Bandura, 1989) and to add to the research regarding persistence in the educational goals of college students with disabilities. The MSPSE (Bandura, 1989) can be used to assess the level of self-efficacy of the individual college student and determine if self-efficacy training is needed. This study has provided information to counselors and educators regarding self-efficacy in college students with disabilities.

Although this study did not find a difference in self-efficacy between students with and without disabilities, it remains an important component of academic achievements. Evaluating individual college student's self-efficacy levels in terms of academic achievement may help institutions to enhance retention programs and help college students persist in their educational endeavors.

Although, this study does not show that self-efficacy is a construct that is different between college students with and without disabilities, a general training to increase self-efficacy

can be provided to college students if the institution decides that low general self-efficacy is a concern. However, there is no indication that college students with disabilities need specific training in self-efficacy any more than college students without disabilities. Post-secondary institutions need to assess the situation of the individual student and provide training on a case-by-case basis. Tinto (1993) recommends, "...institutions should assess the needs of each and every individual and treat those needs on a person-by-person basis" because "...effective retention policies are highly individual in character" (p. 191). Providing overall training in self-efficacy to college students with disabilities will not be productive if that training is not needed or the training time and money can be used for other learning skill workshops.

Implications for Professionals

The MSPSE (Bandura, 1989b) is a paper and pencil assessment of self-efficacy that is reliable and valid for use with college students with disabilities. Most research does not include subjects with disabilities or identify the subjects with disabilities. Research that does include subjects with disabilities tends to disregard this issue in the design or consider the relevancy of the research to individuals with disabilities (Ash et al., 1997). This research is relevant to this minority group in that it provides information on the similarity between college students with and without disabilities.

In order to use a paper and pencil assessment for individuals with disabilities, accommodations must be provided as directed by law (ADA, 1990). The MSPSE (Bandura, 1989) can be used for individuals with disabilities by providing accommodations without changing the fundamental purpose of the assessment. Professionals who use this instrument for college students with disabilities can provide accommodations for the MSPSE (Bandura, 1989) with relatively few changes to the instrument. Current assistive technology can assist the

professional with this task. By using computer technology (e.g., text enlarger, speech to text and screen reader programs), this paper and pencil assessment can be adapted to provide print access to those with learning disabilities, head injury, mobility and visual impairments.

Avoiding the use of scantron sheets and allowing the participants to take the assessment with as much time as necessary would allow the researcher to provide accommodations without adversely effecting the administration of the scale. Universal design accommodations will provide access to participants with learning disabilities, head injury, mobility, psychiatric disorders or attention deficit hyperactivity disorder. Questions that imply functional abilities that are limited due to a disability can affect test scores and skew results. Professionals using the MSPSE (Bandura, 1989) must be aware of the environmental barriers to individuals thus eliminating discriminating items.

Professionals at post-secondary institutions remain concerned about retention and graduation rates in college students with disabilities. Successful retention requires "...high quality, caring, and concerned faculty and staff..." (Tinto, 1993, p.201). Exploring constructs that enhance academic success for college students with disabilities is important to educational research. "Effective retention calls for sustained effort on the part of all institutional members to give each and every student serious and honest attention on a daily basis" (Tinto, 1993, p.201).

Self-beliefs are related to the successes and failures in an individual's life. These self-beliefs can influence an individual's behavior, effort and persistence. Success and the mastery of experiences help individuals to control their environment and their behavior. College students have had previous success including, graduation from high school and acceptance to post-secondary institutions. College students can benefit from exploring their self-beliefs and becoming aware of which beliefs help or hinder them. A greater level of self-efficacy can lead

college students to establish goals and persist toward those goals (Zimmerman, 1996). Tinto (1993) states, "...the higher the level of one's educational or occupational goals, the greater the likelihood of college completion" (p.38). Any student can benefit from evaluating and exploring of the concept of self-efficacy. The results of this study can be used to help students explore their level of general self-efficacy. College students with and without disabilities have similar personality constructs. College students with disabilities need to be aware of these similarities because the focus is always on the differences. College students with disabilities need to be aware that although they are similar to individuals without disabilities in ego development, self-actualization, motivation, maturity, locus of control and self-concept; they continue to persist and graduate from post-secondary institutions at a lower percentage than college students without disabilities (Henderson, 1999; Kriegsman & Hershenson, 1987).

College students with disabilities need to know their options when offered self-efficacy training by their institutions or professionals. Self-efficacy training for college students with disabilities needs to include study strategies that provide accommodations, problem-solving skills that can be adapted to their personal situations, assertiveness training and enhancement of self advocacy skills.

Summary

This study provided information on the reliability and validity of the MSPSE (Bandura, 1989) for college students with disabilities. The MSPSE can be used to assess the level of general self-efficacy of individuals to see if they need supportive counseling or training in this area and to evaluate self-efficacy as a component of academic success. Once the MSPSE was normed for use with college students with disabilities, the study explored the level of perceived self-efficacy in college students with disabilities and provided a comparison to students without

disabilities. Students with disabilities have the same concerns as students without disabilities about adjustment to college (Conyers et al., 1998). A comparison of self-efficacy between students with documented disabilities and without documented disabilities provided information on their level of general self-efficacy. This information can influence educators in post-secondary institutions to note any differences in self-efficacy, provide support and training, and encourage students with disabilities to graduate. This study has concluded that there is no difference in self-efficacy between college students with and without disabilities.

A general sense of self-efficacy may be a predictor of generalized performance (Pajares, 1996) even though Bandura (1986) cautions against this wide sweeping theory. Pajares (1996) states "...the direct effect of self-efficacy on performance was as strong as the effect of ability" (p.9). There is no conclusive evidence that college students with disabilities have a lower self-efficacy or that having a disability affects an individual's self-efficacy positively or negatively.

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Authors Note

Julianne Albiero-Walton is an associate professor and disabilities specialist for the Office of Disability Services in the Department of Academic Enrichment and Learning at East Stroudsburg University of Pennsylvania.

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Correspondence concerning this article should be addressed to Julianne Albiero-Walton, Office of Disability Services, East Stroudsburg University, 200 Prospect St., East Stroudsburg, PA 18301. E-mail: jwalton@po-box.esu.edu

Table 1

Total Sample Factor Analysis Rotated Sum of Squared Loadings

Factor	<u>Total Sample</u>			<u>Disability Sample</u>		
	Total	Variance	Cumulative	Total	Variance	Cumulative
1	4.72	8.29	8.29	9.68	16.98	19.98
2	4.09	7.18	15.47	4.89	8.57	25.55
3	3.37	5.92	21.38	4.39	7.69	33.24
4	3.01	5.28	26.67	3.32	5.82	39.07
5	2.91	5.11	31.78	2.86	5.02	44.08
6	2.90	5.10	36.88	2.31	4.05	48.14
7	2.79	4.90	41.78	1.90	3.33	51.47
8	2.44	4.29	46.06	1.62	2.85	54.31
9	2.44	4.27	50.34	1.41	2.49	56.80

Table 2

MSPSE Total Scores for Sample

Source	<u>N</u>	<u>M</u>	<u>SD</u>	Range
Sample	137	291.29	27.93	201 – 366
Disability	68	287.12	30.73	212 – 366
Without Disability	69	295.41	24.40	201 - 332



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